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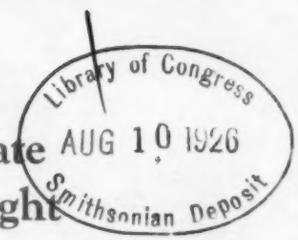

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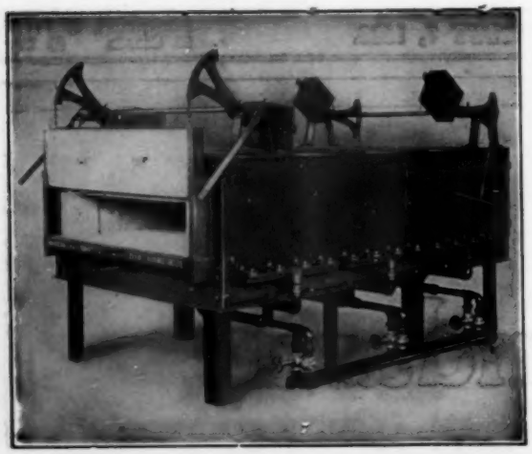

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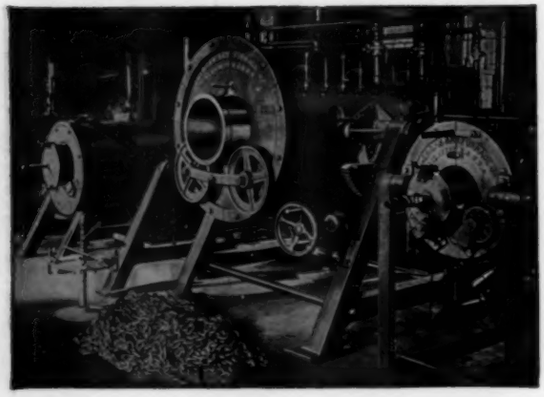

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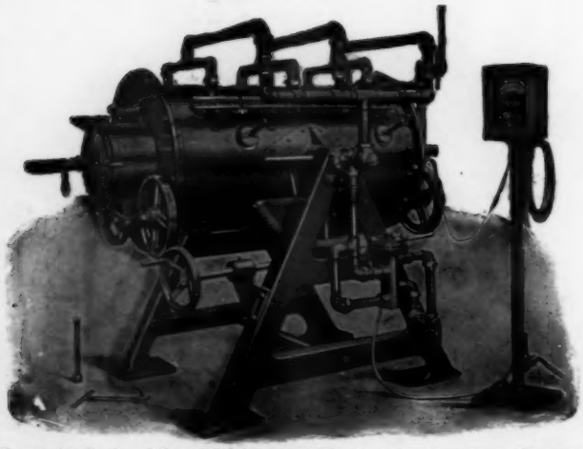

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AMERICAN
GAS JOURNAL

Established 1859—Pioneer of the Gas Industry

Vol. 125. No. 6. NEW YORK, AUGUST 7, 1926. Whole No. 3588.

The Goal of the Gas Industry

Industrial and new domestic developments potent factors in gas progress

Horace H. Clark

Industrial Gas Engineer, The Peoples Gas Light & Coke Company, Chicago

SOME day, the Gas Industry as a distributor of heat in the form of gas, will be the world's largest industry. Gas will be the Universal Fuel.

The Gas Industry has definitely entered a new era. There is evidence of this on every hand. It is an era of gas merchandising. True, the gas Company will continue as a public servant, selling gas at retail to the domestic customer, but we have now entered the ranks of real merchants, and are getting some of the wholesale business.

The possibilities in the wholesale branch of the gas business are unlimited. They challenge the courage and imagination; and to those gas companies who have vision and can adjust themselves to the new era, it means healthy expansion, continued prosperity and greater profits.

The past few years have witnessed a rebirth of the gas industry. It has become a heat industry, selling heat in its most economical and desirable form. That form is Gas, the super-fuel; and some day, the Universal Fuel.

Wholesale Rates Offered

Several gas companies have offered wholesale rates, scientifically determined, which are so necessary to get the competitive group of the wholesale gas business. Improvements in furnaces and equipment for the better utilization of gas are coming fast. Many are here now. They take an important part in getting and holding the large volume business.

Well trained sales engineers, experienced in marketing gas in large volumes, while scarce at this time, are becoming available, through the various industrial gas educational courses, furnace manufacturers and other gas companies.

There are a few gas companies who now have one or more wholesale customers buying as much as a million cubic feet of gas a day each. As these large customers begin to attract our attention, we find that the increased send-out gives our operating engineers an opportunity to improve their plant by the addition of modern gas equipment, thereby reducing their unit cost of production. Improvements by additions of equipment are less costly than improvements by replacement.

The balance sheet begins to take on a more healthy appearance. The increased sales lower the cost per thousand cubic feet on all expense items. The income begins to grow faster than the expense account, thereby creating a more favorable net balance.

Development Work Needed

Some development work is needed in the field of gas utilization, before the entire heating field can be covered efficiently and satisfactorily. There is much satisfactory gas utilization equipment available even now, and the rest will come as soon as the gas industry unites in a concerted effort to have it developed.

For those gas companies who are experiencing a loss in sales per meter to domestic customers, the wholesale gas business will prove highly beneficial by helping out the total sales. Of course, any business that will increase the sales per meter to the domestic customers, will be worth while to the Company. Under this class of business comes house heating, water heating and refrigeration.

Domestic Field Problems

If the modern housewife develops a feeling that she would rather buy her bread than bake it, we can combat this feeling by our Home Service work, but we must also see that the wholesale baker uses gas to bake the bread that the housewife buys.

Similarly, if the housewife dislikes to do the wash-

ing and ironing, and prefers to send the clothes to the laundry; we can point out the advantages of doing the work at home, but let us also find a way to supply the heat required by the laundry that washes and irons the clothes for the housewife.

When the family prefers three minute oats, instead of the kind that have to be cooked an hour, or if they prefer the breakfast cereal pre-cooked and pre-digested, let us be sure we are furnishing the fuel to the factory that partially cooked the oats or that pre-cooked the cereal.

If the family prefer to buy their Sunday dinner at the delicatessen store, be sure the delicatessen cooked foods are done with gas. Home Service can do much to hold or bring back the old-time favorite, the big Sunday dinner, but Home Service has lots of competition these days. There is the auto, the movies, the delicatessen store, maybe golf or other outdoor sports, so even if mother did prepare a nice Sunday dinner, she would be the only one at home to eat it. But we all must eat, some time, some place, so if gas cannot cook all the food in the home, let us be sure to cook it wholesale, or wherever it is prepared.

Househeating is seasonal business, but it can be balanced by certain industrial business, or partially by house-cooling. Ordinary refrigeration is all year business, being only about 30% greater in summer than in winter, especially in the better class homes, where mechanical refrigeration finds its greatest field.

Refrigeration

However, if we develop a field of refrigeration for house-cooling in summer, we will have a load that will balance a portion of the winter peak caused by house heating. Many theaters and restaurants are cooled by refrigeration in summer and it is found that the customers, by their body radiation, give off heat in winter and summer too, which is a help to the heating system, but works against the cooling plant.

Horace H. Clark

In the home, there is no such relation between the number of occupants and the air capacity, so it is fair to assume that to cool a house in summer would require about one-third as much gas as it would to heat the same house in winter. This would hold true for a climate like Chicago. For other latitudes, it would vary. In the far South, house cooling would more than balance the house-heating load.

So, no matter how successful you are in increasing the sales per meter for domestic customers, you must look outside the home for the load to even out the peaks and fill in the valleys. You will find such a load in the wholesale market for industrial gas.

The Industrial Market

The industrial market is here. The house-cooling market will have to be developed, and if it takes as long to develop as ordinary gas refrigeration, it will be many years before we can count on much income from this source, and a much longer time before net profits appear, because there will be heavy servicing expenses on the installations.

The change from an exclusive public servant to a place among the nation's leading merchants may seem somewhat revolutionary, but such a change is inevitable.

Gas Has No Equal As Heating Agent

There is a wonderful field for all gas companies in this wholesale market for their product. Gas, the super-fuel, has no equal as a heating agent. True, it has many competitors, but as in any wholesale business, conducted by good business men on a sound business basis, the competition can be met. Good salesmen and a sound rate structure are the first steps in meeting competition. Low prices stimulate quick sales. Furnaces and apparatus to efficiently utilize the gas are also helpful. Good salesmen are necessary, to combine the low priced gas and highly efficient furnaces, for the best service to the customer, and for the most satisfactory results from the gas company viewpoint both as to volume of sales and profits.

Gas men realize what a tremendous opportunity is before them in this wholesale market for gas. The problems of the gas industry are common to all gas companies, large and small, and every gas man should get busy and take advantage of the opportunities offered him; for a concerted effort by all gas companies will result in much better and faster progress toward our goal—Gas, the Universal Fuel.

All Companies Should Get After Industrial Business

Pioneering and development should not be left to a few companies, but a real effort should be made by all gas companies to get into this wholesale business. What is good for one is good for all.

There is nothing wrong with the gas business as it is today. All gas companies are making money; all are enjoying prosperity, some more than others. But by developing into real gas merchants, as well as public servants, and by getting some of the wholesale gas business, they will add to their profits and enjoy even greater prosperity.

The Low Temperature Carbonization of Coal*

Description of carbonization processes

A. C. Fieldner

Two-Stage Processes in Which Coal Is Preheated Before Carbonization

SEVERAL processes for the low temperature carbonization of coking coals have been proposed, in which the coal is preheated to a temperature below the plastic temperature before charging the material into the carbonizing retort proper. Such pretreatment, especially when done in the presence of some oxygen, destroys to a large extent the coking properties of the coal, so that it does not stick to the walls or clog the retort. Usually the first stage of heating is done in a rotary or stirred retort, but the preheating may also be done in an internally heated vertical shaft retort. According to A. R. Powell[15] the advantages claimed for preheating are the following:

1. The coal is dried before charging. Before the coal carbonizes in the retort it is necessarily dried by the oven heat, but the thermal efficiency and capacity of a drier where the coal may be kept in motion in a steel chamber before putting into the oven is much higher than the oven itself would be.

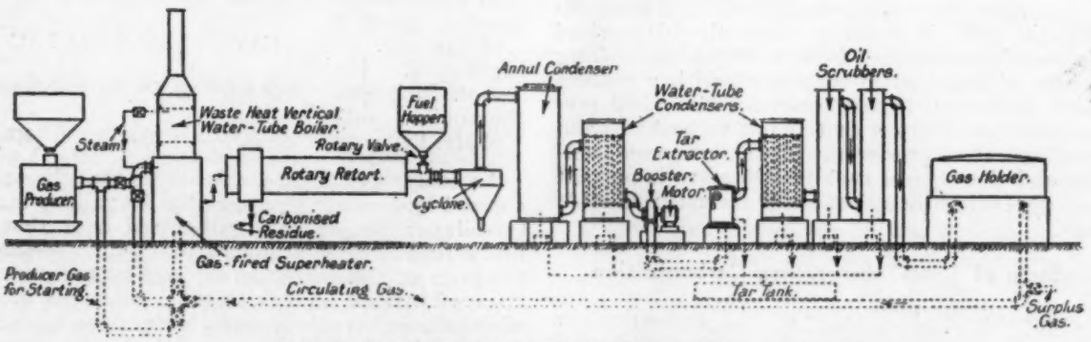
2. Sensible heat is introduced into the coal before charging. For the same reason as above, the coal temperature is raised to just below the fusion point of the coal much more efficiently in a preheater than it would be in the oven.

3. The amounts of various coal components are said to be changed by the preheating so as to favor the production of good coke.

4. The preheating is said to produce conditions favoring autogenous carbonization by exothermic reactions.

The two best examples of two-stage processes are the Parr process and the Illingworth process. Powell[16] describes these processes as follows:

Parr Process.—The process of low-temperature distillation devised by Parr and Laying in America has been one of gradual evolution. At the present time the retort used is a vertical cylinder externally heated, and possesses no novel mechanical features. The method claimed for heat transfer is different from those which have been described under the preceding headings. The claim is made that certain classes of coal, particularly Illinois or other high-oxygen coals, will give out heat during carbonization, and this heat will be sufficient, provided the coal has been preheated to a certain extent, to carbonize the coal autogenously. In other words, the preheated coal can be charged into the retort, and then just sufficient temperature is kept at the outside of the retort to start the exothermic coking reaction in the outer layer. The claim is made that this exothermic reaction will then pass comparatively rapidly to the center of the retort, and coking will be completed without a physical transfer of heat units from the outer wall to the interior.[17]



"SENSIBLE HEAT" (NIELSEN) PROCESS. SUPERHEATED CIRCULATING GAS SYSTEM.

Fig. 18. *"Sensible" (Nielsen) Process. Superheated Circulating Gas System*

Illingworth Process.—The Illingworth process is essentially one of pretreatment in order to improve the coking quality of coal. The pretreatment consists in preheating the coal in an inert atmosphere so as to secure a selective decomposition of certain

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Fifth and last installment of Mr. Fieldner's paper read before Johns Hopkins University.

[15]Powell, A. R., Practical coal carbonization. Mechanical Engineering, vol. 46, 1924, p. 394.

[16]Powell, A. R., Work cited.

[17]Ind. & Eng. Chem., vol. 12. 1921, p. 14; Proc. Amer. Gas Association, Tech. Sec., vol. 3, 1921, pp. 441-459.

constituents, which, if allowed to remain, have a bad effect on the quality of coke produced.

Comparisons of Various Systems

It is evident from a consideration of the many different processes that have been and are being tried experimentally that no outstanding single method has yet met with unqualified technical success. Each has its peculiar problems yet to be solved, and a number have shown promise under certain favorable conditions. The processes that depend on internal heating are simpler and require less capital expenditure per ton of coal carbonized, but they are limited to non-coking or weakly coking coals; also the gas is of low calorific value and the light oils are not recoverable from this diluted gas. However, such processes are promising for future development in combination with large central station power plants or industries using large quantities of gas of low-heating value, at such future time when diminishing petroleum supplies create a demand for low-temperature fuel oils.

The relatively higher cost processes using externally heated retorts will probably find their most advantageous field in making relatively high-priced smokeless domestic fuel from a cheap non-coking or poorly coking coal in connection with a market for high B.t.u. gas. These processes also yield several gallons of light oil that is not to be had from internally heated processes. Local economic conditions and the type of coal available are important factors governing the selection of the most suitable process.

Products of Low-Temperature Carbonization

The quantity and quality of the carbonization products of coal depend upon the type of coal used and the heat treatment it receives in the process. High-temperature processes produce hard cellular coke and crack the primary tars into fixed gases, aromatic light oils and viscous tars containing phenols, creosols, anthracene, naphthalene, and other aromatic compounds. Low-temperature processes produce soft semi-coke, which retains 7 to 15 per cent of volatile matter and also produce uncracked but slightly decomposed primary tars and oils containing paraffins, naphthalenes, creosols, xylenols and higher phenols. The gas volume obtained is only one-fourth to one-third that obtained in high-temperature coking, but has almost twice the calorific value per cubi c foot. The quantity of light oil suitable for motor fuel is about the same from both processes; the composition, however, is quite different. The low-temperature product contains saturated and unsaturated paraffins, hydrocarbons, naphthalenes and complex aromatic hydrocarbons; while the high-temperature process yields benzol, toluol and xylol.

The total low-temperature tar yield is about twice that obtained at high temperature, but the ammonia yield is only one-third to one-half as much.

These comparisons apply to externally heated retorts. Internal heating dilutes the light oil vapors to a point where recovery is impracticable by present methods and produces large volumes of gas of low calorific value.

Table 3 gives approximate yields of high temperature and the two main types of low-temperature processes—namely, externally and internally heated retorts.

Table 3—Approximate Comparative Yields of High and Low-Temperature Carbonization Processes

	High-temperature carbonization	Low-temperature carbonization	
	By-product coke-oven	Externally heated retort	Internally heated retort
Coke, %	60–70	70–80	60–75
Volatile matter in coke, %....	1–2	7–15	7–15
Gas, cu. ft., ton	11000–12000	3000–5000	20000–50000
Calorific value of gas, B.t.u., cu. ft.	520–580	800–1000	150–250
Tar, gallons	10–12	20–28	18–20
Specific gravity of tar	1.19	1.07–1.09	1.02–1.07
Light oil for mot. fuel, gal.	2.5–3.0	2.5 –3.0	None
Ammonium sulphate, lbs.	25–30	10–12	12–18

An analysis of these yields shows that the only increased by-product return is the 15 gallons more of tar-oil per ton of coal carbonized over that now being recovered in standard by-product ovens. As the price of this tar is determined by the prevailing price of fuel oil, that is, about 5 cents per gallon—the additional credit is only 75 cents per ton of coal. Against this credit must be charged a lower ammonia return of approximately 35 cents per ton of coal and a lower yield of gas. Obviously the by-products of low-temperature carbonization do not, today, afford any greater financial return, if as great as existing methods of high-temperature carbonization.

Immediate Future of Low-Temperature Carbonization Processes

Where, then, is the possibility of profitably engaging in the low-temperature carbonization of coal in America under present economic conditions? This is a very difficult question to answer. Fuel technologists experienced in gas and coke manufacture are as a rule very skeptical of any low-temperature process being commercially successful in the near future. They point out that the principal product of these processes is semi-coke. Therefore, this product must find an adequate market at a sufficient price to make the process profitable in competition with gas and by-product oven coke. It is not likely that any greater price can be secured than the prevailing price of high-temperature coke sold for domestic purposes. Furthermore, this low-temperature coke is too friable and porous from many of the proposed

processes to be directly used as a domestic fuel. It must first be briquetted and this operation adds further cost to the product.

In reply to these objections, it is admitted that the commercial success of low-temperature carbonization of coal in the near future must depend mainly on the sale at an adequate price of the solid product—smokeless fuel—rather than on the liquid and gaseous by-products. The by-products are important contributing factors, but they cannot carry the entire cost of processing the coal under present competitive prices of petroleum fuels.

However, it does not follow that low-temperature carbonization cannot be developed to make a high-priced fuel from low-priced non-coking coals. There is relatively little coking coal in the Central and Western states. These non-coking coals are not suitable for by-product coke ovens. Processing these coals affords a fairly large margin between cost and selling price of the processed fuel, so that it seems possible to work out a low-temperature process which can compete with high-temperature processes, requiring more expensive raw material in supplying the smokeless fuel requirements of this region.

Ideal Future System of Coal Carbonization

In conclusion, I wish to emphasize the fact that the low-temperature carbonization of coal furnishes little, if any, greater yield of gasoline substitutes than existing high-temperature processes. Low-temperature tar is essentially a fuel oil substitute. Increased gasoline yields require hydrogenation and cracking of these tars, or reduction of the phenols. A more promising method for producing fuels of low boiling point is by direct synthesis from carbon monoxide and hydrogen.

Some time in the near future, when petroleum becomes scarce, an ideal combination process of carbonization may be developed which will provide the necessary oil and gasoline substitutes. In this ideal process the full yield of primary oils will be extracted from the coal by carbonizing at gradually increasing temperatures to remove all the volatile matter from the coke. Coke will then be converted by way of the water gas reaction to carbon monoxide and hydrogen, which, when heated under high pressures (100 to 200 atmospheres) in steel autoclaves in the presence of suitable catalysts, may be converted into alcohols suitable for motor fuel. Dr. Fischer, of the Institute for Coal Research at Mulheim-Ruhr, has succeeded in making such a mixture of alcohols varying from methanol to an alcohol containing 9 carbon atoms. This mixture, which he terms "synthol." was made at 150 atmospheres pressure, and 400 degrees C. The catalyst was iron oxide impregnated with alkali. This fuel gave satisfactory performance in a motorcycle engine. Methanol is now said to be made in Germany by a similar process in copper-lined autoclaves, using zinc oxide catalyst, at a manufacturing cost of 18 cents a gallon. It is therefore possible that city gas works of the future will provide the nation's gasoline supply. They will install enough gasoline synthesizing units to equalize winter and summer loads, thus allowing them to take on all the house-heating customers they can get. In the winter the company makes gas. When the weather gets warm and the touring season begins, the excess gas manufacturing capacity is used for gasoline production. Since gasoline can be stored, the gas plant can be operated at maximum capacity throughout the year, thus reducing the excessive capital cost due to the maximum demand capacity required under our present system of gas manufacture.

Under these conditions house-heating with gas in the cities may become as common as cooking with gas is today. Personally, I believe that synthetic motor fuel processes will be in commercial operation by the time the petroleum resources approach exhaustion, and that the transition from petroleum gasoline to synthetic gasoline will take place gradually without any material change in our highly developed automobile transport system.

FLICKER OF GAS FLAME HELPED BELL

When Bell was seeking a means of reproducing sound electrically he studied the effect of vibration on a gas flame as demonstrated in Koenig's manometric apparatus. This apparatus consisted of a cavity in a piece of wood divided into two parts by a membrane, on one side of which was a small jet burning illuminating gas. When words were spoken into the other side of the cavity, the vibration was transmitted through the membrane to the gas flame, causing it to undulate up and down just as many times per second as the air vibrated. Bell knew that if a similar undulating effect could be produced in an electric current, it would be possible to reproduce sound so transmitted.

Later, long distance telephone was again benefited by the invention of the DeForest vacuum tube. Here again, gas played an important part in solving the problem of the tube so widely used in radio and telephone transmission. In 1900, while he was experimenting with a primitive type of transmitter, a species of spark coil, he noticed that every time the transmitter key was operated the gas light in the laboratory flickered. The sound waves from the transmitter had caused a change in the gas and air currents within the gas mantle, forcing the gas from the hotter regions down to the less dense spots which were not quite so brilliantly lighted. This caused the distribution of the gases to be more even throughout the burner. It is a development of this phenomenon which is responsible for the action of the modern vacuum tube.

Once more the sensitiveness of the gas flame to vibrations in the atmosphere has been utilized to develop a new phonograph, in which a gas flame is used to reproduce the music. Vibrations from the diaphragm are transmitted to small gas burners attached inside of the soundbox, and it is said that the music thus produced is of unusual purity, particularly in the case of violin music.

Utility Workers Study Economics

Pennsylvania State College popularizes subject in extension work

C. G. Gaum

AFTER several years work in assembling material, writing and revising the resulting text, the Pennsylvania State College is now furnishing its course in Public Relations and Industrial Economics to a considerable number of Utility organizations in Pennsylvania as well as those in other states. The course has been approved by the American Electric Railway Association.

Among the larger companies using the course are: The Bell Telephone Company of Pennsylvania, The Philadelphia Electric Company, The West Penn Power Company, Pittsburgh Railways Company, The Duquesne Light Company, Peoples Natural Gas Company of Pittsburgh, The Equitable Gas Company of Pittsburgh, the Lehigh Valley Railroad Company, and Philadelphia Rapid Transit Company. Individual copies have gone out all over the country to concerns who contemplate taking up this work with their employees another year.

This work has occupied a great deal of the time of the Extension Staff the past two years in the collection of material, preparation of charts and assembling of its component sections. In its final form it is the result of painstaking preparatory labor submitted for criticism and comment to prominent industrial authorities as well as utility heads.

Curriculum Carefully Prepared

The collaboration of the various staff members has produced a well rounded series of units, each dealing with a separate portion of the main subject of Economics first, then its application to the peculiar problems of the public utility corporations, their relation to the public, the government and their employees.

Every care was taken to make certain that the ground was completely covered and equally important that the text was suited in content and presentation to those who would mainly use it—the rank and file workers of the utilities.

"Such a topic as Economics," says Professor Miller, Director of the Industrial Extension at Rutgers University, "might be considered difficult to present to the average worker. However, by concentrating on familiar examples, making use of the employees' knowledge of the companies' problems and elaborating on these, showing that most problems were questions of relations between company, public, government and employee, it is not as difficult as it seems. Tho old-school economics theories have a new life when expressed in terms of a man's job and his wages, of the companies' operation and how profits are affected, and in turn affect wages; all these make for a readier grasp of the more remote principles and the fundamentals of the science."

Practical Value of Course Praised

The Public Utilities at whose request the College has prepared the course, appear to be unanimous on the practical value of this instruction for their personnel. The benefit derived from a sympathetic attitude toward the companies' problems based on a fuller understanding of these problems will go a long way toward allaying contention and go equally far toward creating a better feeling on the part of the public they both serve. These two reasons alone are sufficient argument for installing study groups in every utility company.

Method of Instruction

The course is adapted for class-room work as well as for home study. It is entirely suitable for correspondence instruction, in which form it has a wide use. The favorite method of carrying on this study is to have weekly or bi-weekly meetings of small discussion groups, led by members of the group itself or men assigned from the company's staff. Written lesson reports are based on the list of questions appended to each of the sections, of which there are sixteen. These are corrected and returned to the men.

When desired the College will assume the burden of corrections, leaving to the local staff only the conducting of the discussions. This feature enables busy executives to take charge of groups who otherwise would be deterred by the amount of time consumed in correcting papers.

A Typical Project

The Philadelphia Electric Company had over 500 men complete the course in "Public Relations and Industrial Economics," as it is called. Divided into sections, ranging from 20 to 70 in number, the men meet weekly, covering in their discussions not only the details brough out in the course but discussing the local applications of the fundamentals laid down and the companies' policies which illustrate these.

Mr. W. H. Donley, of the Philadelphia Electric Company says, "Seldom has a course of this kind aroused such enthusiastic interest among employees of such a wide range of engineering and general business experience. Before the first class, the hope of many members was that the class period would be very short; toward the close the night watchman had to chase them out.

"While a text of this character, prepared for all classes of students, must contain much elementary data and many of the members were already thoroughly familiar with the subject in general, the discussions presented new thoughts and introduced new phases that can only be brought out under such circumstances.

"If it has succeeded in awakening the minds of employees to other factors than those of daily contact, as required for the proper functioning of a corporate organization such as ours, and has intrigued them to pursue further thought, it has admirably accomplished its purpose.

"Apparently, the letters of appreciation for the privilege afforded, addressed to our executives from various classes and the very happy reactions between instructors and members at the close, would indicate that the object has been accomplished and each instructor is to be sincerely complimented on the result.

"Similar classes may be organized in the future if a sufficient number of employees express an interest."

Description of the Course

Bearing in mind the special field for which it is intended, the framers of the course have been careful to make it sufficiently elementary to be readily grasped by the Utility worker of average education and ability. At the same time it is comprehensive and affords an excellent foundation for the specialist who may later desire to supplement it with the study of the conventional advanced texts along economic lines.

Outline of the Course

Section 1. "The Development of Industry."
Section 2. "How a Public Utility Differs from an Unregulated Business."
Section 3. "Ownership and Control of a Public Utility."
Section 4. "Organization of a Public Utility."
Section 5. "Capital."
Section 6. "Where Capital Comes From."
Section 7. "How the Revenues Are Spent."
Section 8. "Wealth."
Section 9. "Money."
Section 10. "Wages."
Section 11. "Materials and Their Value."
Section 12. "The Law of Supply and Demand."
Section 13. "Competition and Monopoly."
Section 14. "The Business Cycle."
Section 15. "Summary and Conclusion."

Economics for General Industries

A modification of this course has been prepared for general industries. A large group of foremen of the Middletown Car Company has just completed its study. In this case lecture service was supplied by the College, Professor C. G. Gaum meeting the group bi-weekly at a dinner.

"I have been meeting regularly with the Car Company's group of foremen and the executives, including the plant manager, Mr. A. B. Cressler, and it is a continual source of satisfaction and of particular delight to note the keen interest taken by these men in a subject usually considered dry and unattractive.

"Using an elementary text prepared by the State College Extension staff the outstanding topics usually treated in this subject are made the subject of regular written lesson reports, definite questions being assigned for each session.

"This, however, is but half the story—a brief lecture on the main topics, illustrated by blackboard charts, extracts from the current magazines, the financial pages of the dailies, and the evening is only begun.

Value of Work Unquestioned

"I cannot venture to place a value on the work. I do know that the opportunity to secure from an unprejudiced source like the College of the commonwealth, the fundamentals of Economics, to discuss them in the light of the personal experience of management and men cannot help but lead to a better understanding of the problems that absorb both parties to the industrial contract.

"Personally, it is very gratifying to me, to be identified with such a project. I feel safe in predicting that as the College's work becomes better known, more and more the enlightened industries will get into similar work, much as they have generally gone into the technical foreman training courses, now so largely exploited. The financial return may not be so immediately obvious; the effects, on the other hand, are found to be incalculably more far-reaching."

☼ ☼ ☼ ☼

If you employ heat for any purpose in your shop or factory, investigate the advantages obtained when using gas as fuel.

Gas fuel is clean, permits an exact easily controlled temperature and is available at any time upon demand.

The service is delivered by pipeline. Labor costs for making and tending of fires and ash removal are eliminated. Valuable storage space is made available for other purposes.

Fuel experts conversant with your particular industry will gladly survey your heating requirements. Write or 'phone the Industrial Division.

Telephone: TRIangle 7500

The Brooklyn Union Gas Company

Advertise Gas Fuel For Industrial Purpose By Epitomizing Its Advantages.

Newspaper Boosts Gas

Portland paper conducts cooking school

John H. Hartog

Portland, Oregon

THE biggest gas cooking demonstration given in Portland came to an end June 30 in a blaze of glory with the drawing of the prizes.

Instead of handling this cooking school in the name of the Gas Company, the Portland Telegram, one of Portland's influential dailies, and one which caters particularly to the women and Home Service, took charge of the cooking school as its own, giving it daily front-page publicity.

The School was held in the beautiful ballroom of the new Elks Club at 11th and Adler streets, Portland, Oregon, where the large stage gives abundant opportunity for demonstrations.

The Telegram, through its own Home Service Demonstrator, boosted the various articles used. which were advertised in the newspaper during the week of the demonstrations.

Kindergarten for Little Folks

A kindergarten was arranged by the Gas Company to take care of the little ones so that mothers could be relieved of that worry.

The various manufacturers offered door-prizes while the Gas Company gave a $159.00 Smoothtop as first prize, a Radiantfire as second prize and a Marvel Sweeper as third prize.

Large Audience Drawn

The picture reproduced herewith shows a part of the audience, after they had left the Cooking School on the floor below and gone upstairs to watch the prize drawing in the cake, pie and cookie contest. The tables displaying the entries can be seen in the background but they were also to the right and left and the greater part of the audience could not be seen in the picture on account of being on both sides of the room towards the auctioneer, who on behalf of the Portland Women's Club sold the prize-winning entries to the highest bidders and then disposed of the rest of the entries all for the sake of Sweet Charity.

The oven heat control, the solid top of the Smoothtop and the Hawkeye Reminder Clock, which proves such a boon to demonstrators, were the principal topics of the demonstrators, in addition to showing the women how to use a modern gas range with all its latest accessories to the best advantage.

Telegram Cooking School—Drawing of Prizes at Last Class
—Hartog.

GETTING PUBLIC TO UNDERSTAND VITAL JOB FOR UTILITIES

"A better understanding of the utility industry by the public remains the most vital of all the issues with which the electric light and power world is confronted," according to President Edwin A. Barrows, of the Narragansett Electric Lighting Company, of Providence, R. I.

"We need not belittle the progress of the past in this great task of winning the public to a comprehending friendship for our ideals and for the men and women who are part of the electrical industry.

"The prosperity of the central stations has aroused jealousy in some industrial circles and unthinking criticism in quarters that ought to know the truth. Without prosperity, our service must fail to meet acceptance, and capital for its enlargement and extension cannot be obtained.

"Our industry does not enjoy profits in the usual sense; it receives a reasonable return and no more upon the total cost of its service, and the tendency is for that cost to diminish as engineering science advances and as good management and public relations work together to build up the community welfare. In both domestic and industrial budgets the cost of electricity is relatively so small a part of the total that it is difficult to understand why any one cares to attack rates unless for some political or ulterior purpose.

"Public relations are constantly improving as utility men and women visualize their importance and practice good will and courtesy."

HOME SERVICE

Home Service in the Capital City

How the Washington Gas Light Co. promotes home service

Mary Harris Hoar

Director, Home Service Department, Washington Gas Light Co., Washington, D. C.

WASHINGTON, our beautiful Capital City, with its floating population, due to its being the seat of the Government, was not found, in the earlier days, to be particularly a "City of Homes."

The number of homes that were built during and since the war is very surprising. Individuals are striving to own their own properties, even though there is a possibility of their not always staying here.

In my work in the Home Service Department, I have found golden opportunities. This has been a fertile field; in the beginning it was a "Virgin Field" as the Gas Company had never before had a Home Service Director.

We have built this department from various points of "Service" covering a wide scope in different branches of gas industry. It has been a most interesting situation. I have seen the "acorn" grow to the "sturdy oak."

Home Service Department Thriving

During the fifteen years of building this department, the company has absorbed other nearby plants, including much suburban territory, and the Home Service Department today is one of the busiest branches. Our company had to be sold on this work, as it looked upon it rather critically in the beginning, but it now has attained full compensation for all expenditures, and today the Washington housewives depend in great measure upon the Gas Company to solve their kitchen problems, and many opportunities are found to put over service for the company from this department.

We used as a "key" for success in our field the endeavor to gain and hold the confidence of our consumers "service," being always alert at all times to the fact that we must "sell service."

We opened our campaign with a systematic line of public lectures and demonstrations, which covered a period of three months. We held two a day and each week moved the location to the different parts of the city and suburban districts, thereby reaching comfortably consumers along all mains. This reached the scattered masses of housewives, creating interest in all modern conveniences in gas appliances. Lectures were crowded to the utmost, not even standing room being available, and the interest keen.

Prizes Distributed

We distributed prizes at the close of each demonstration—including everything in gas appliances from a gas lighter for range to the range itself. We arranged to give a menu of properly combined foods with recipes of same; then gave a heart-to-heart gas talk to consumers on the wonderful place in the home for these gas appliances with all the modern inventions.

There is no fuel today that takes the place of Gas from the side of efficiency and economy. No home is complete without it.

Old Methods Being Supplanted

During the past decade the increase in numbers of those who are giving up traditional use of old methods in housekeeping is both conspicuous and encouraging. Gas ranges have replaced the coal and oil stove, and now, we are replacing the electric ranges with gas ranges. I find these customers need a lot of real education because it is hard for them to realize that gas is a much hotter fuel than electricity. Many of the housewives have told me with great joy and pleasure, how they can steal that extra nap in the morning and still have breakfast in ample time for "hubby" to reach the office at his regular hour. What a saver that modern gas range is to the housewife! The use of modern gas appliances along with the Home Service Department work, given today by all live and up-to-date gas companies, takes endless fatiguing work out of the home, spells both

(Continued on page 128)

Sources of Good Public Relations

Good-will of employees translated into public good-will

T. D. Croker

Northern States Power Company, Minneapolis, Min nesota

THOSE of us in the public utility business hear much these days of the term "Public Relations." To most of us this phrase signifies eternal vigilance to earn the confidence of the public whom we serve. Good relations with the public is now recognized as one of the most essential parts of public utility operation. I shall discuss some phases of the handling of the problem which may present some new angles.

To analyze better the sources from which good—or bad—relations with the public originate, let us reduce the complex whole, namely the indefinite term "Public," to a simple equation, and consider one element of the public, an individual, and let us assume that he is a prospective consumer and follow his experiences and reactions in his contact with a utility.

Character of Utility Business and Its Influence

Our business is fundamentally monopolistic. Monopoly means one source of supply. The user of the commodity which we sell—gas, street railway transportation, or electricity—must come to us for service. Now, the ordinary American citizen dislikes to be compelled to do anything, so our prospective consumer (we will call him Mr. Blank) who has built a new home on land which he chose, employed a builder, a plumber and wireman of his own selection, has reached a point where he needs gas or electricity and he has no option but to come to us for that service. So he comes down to the office to make application with potential irritation in his system, although he may not be conscious of this feeling.

His first contact is with the information clerk—and it is pleasant. Apparently that individual seems to take an interest in directing him to the proper place—the elevator man adds to this impression—even his credit is passed upon in a manner that does not hurt his pride. He feels when he goes home that he has been dealing with people who have an interest in their work and consequently in him. The next day the service crew puts in his service and meter. The work is done neatly, the men don't loaf and they seem to be happy in their job. They answer questions civilly.

Making a Satisfied Customer

The first trouble call brings a man who goes to some pains to help Mrs. Blank put her range, iron or other electric appliance in good order. If this is only a temporary repair, he follows it up and sees that permanent repairs are made and Mrs. Blank is satisfied. Mr. Blank gets the bill (if an electric bill, a difficult thing to understand). He pays it to a cashier who says "Thank you," and means it. Result: Mr. Blank is a friend. Mrs. Blank is a friend. If some neighbor says something derogatory about the company, Mr. Blank may not argue for the company, but he has no grievance, so the disaffection does not spread. Increase this typical case to include a large part of your consumers and you have a friendly public.

The above is obvious if it can be accomplished. I can hear somebody say. It can, and it is being done. And the source of this accomplishment brings us to the first fundamental source of good public relations—the employees of your own organization. Good relations with them is a vital necessity if you hope to have good relations with your public.

Importance of Employees

When Mr. Blank came in contact with the employees in different departments, his pleasant experience was not the result of accident. It is human nature to reciprocate in kind. Your employee must be enthusiastic about his own company. He must have confidence in the management. He must have some conception of your problems and their solution. He must feel that the company has an interest in his welfare and he must know this from his own experience. What is his reaction? He is watching for every opportunity to help the company. He goes out of his way to do something for a consumer that will make a friend for his company. Therefore he avoids doing anything that might irritate a consumer.

I want to emphasize this factor, for it is the mainspring from which the public goodwill grows. The public knows a company—not by the spectacular things it does, but by these daily, personal, little contacts that either please or irritate. A tactless, disgruntled clerk or trouble man can arouse more resentment than the general manager can counteract.

This is the only sure method of keeping out of politics. Politics thrives on dissension. A politician inherently is attracted to questions in which much interest is taken. If you can establish friendly relations with your consumers individually, the politician senses that there is no political capital for him should he attack the company, therefore he confines his efforts to other subjects.

The same underlying policy that gains the goodwill of your employees, if adopted in the treatment of your customers, will gain their friendship. That friendship once attained, you will find that the most difficult problem of public utility operation ceases to exist.

(Continued on page 130)

As The Journal Views It

THE 1926 CONVENTION

There remains now but the short period of two months before the American gas men and their Canadian brethren as well will assemble in Atlantic City to participate in the meetings and events of the Eighth Annual Convention of The American Gas Association. Plans are now being perfected for a very profitable and entertaining program of the character that has been made so well known to the American gas man in the past. Suffice it to say that this year's program will not only come up to the high mark set in former years, but will in fact surpass it in many respects.

It may be rather trite to say that the Convention this year will be greater and better than it has ever been before. In the first place, it is understood that all our efforts and those of the loyal workers of the American Gas Association are always directed to that end. We, all of us who are imbued with the proper spirit of ambition, seek to become better and better, and to improve our work and progress along with our industry. Thus, our efforts this year will be as in former years to make the 1926 Convention a better one than those that have passed. But then again, we must say this that the high standard which we have set in former conventions has really made it a difficult matter to improve on them. We have not by any means reached the summit of our capabilities and there is still much that we can do to make our conventions more effective, but we take pardonable pride, we gas men, in the fact that our annual conventions may well be used as a model of what these meetings should be.

And in the 1926 Convention we aim to continue this work and to improve it as far as we can. We are going to see and hear many new things. We are going to learn much that will be of advantage to us in our work the remainder of the year. We are all of us imbued with the desire to partake of the offerings made at the numerous meetings, and not only that but to offer also our bit to round out the whole. This is our opportunity to make ourselves known to the rest of our fellows, and we will not miss this opportunity. Even though what we have to say might appear to be of little importance to us, we are going to say it as long as it represents truthfully and accurately what we feel or what we have experienced. We are going to fulfill the hopes of our executives who have sent us to many conventions and meetings in the past by mingling socially with our fellows, exchanging views and experiences, giving of our own knowledge—limited though it be—so that some one might have his question answered, and participating in all that takes place, so that on our return home, we may truthfully say that the "boss" made no mistake in sending us to Atlantic City. For we have learned much and done our share in making the meeting a success.

These should be the aims of every gas man and gas woman who attends the Atlantic City meetings, and if they are, we feel sure that the 1926 Convention will be hailed at its close as one of the best, if not the best, Convention ever held by gas men in America.

In closing the American Gas Journal wishes to say that it is going to do its bit in helping to make the Convention a success. As in former years and for the fifth consecutive time the American Gas Journal will issue a series of five Convention Dailies. These have come to be a regular feature of the Annual Convention. Gas men have come to expect them, to use them and to read in them at their leisure the full account of the events and meetings of all sorts that took place during the Convention week. The American Gas Journal Dailies constitute in fact a contemporaneous history of these meetings, written on the spot and clothed in the Convention atmosphere. They afford both the man who is so fortunate as to be able to attend the meetings as well as those that are left behind at home "to keep the fires burning," a complete and accurate story of what took place during that most interesting and busy week in October in Atlantic City.

Finally we wish to call special attention to the first Daily issued in which the manufacturers tell their story of what they have done in the past to promote

gas progress and what they intend to do in the future. This will be a most interesting and informative symposium and one that will well merit the careful attention of the gas industry. We shall have more to say of this in the future.

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HOME SERVICE IN THE CAPITAL CITY

(Continued from page 125)

efficiency and economy and gives the wife and mother time and opportunity to enjoy the outside world, bringing to the home fresh interest, enabling her to grace it in fruitful endeavor, seasoning her worth with the sauce of real service, making the home a haven of rest and peaceful contentment.

Wholesome Nourishing Meals

Meals as advocated by our Home Service Department today are wholesome and nourishing, with deeper understanding of proper combinations, which flavors food to the sense of taste, not to be greedily eaten, but consumed as a contribution to a perfect harmony in body building.

This has been known to bring sunshine into the home and to eliminate the consumption of canned and ready-to-eat foods. It unites the household within the family circle each meal and keeps that "togetherness" in the home, which can never be realized and enjoyed in restaurant or hotel dining.

The Home Service Woman

The Home Service woman must be one of personality, one who has actual practical knowledge of the science of cooking by having used it in her own home. Cheerfulness at all times is her asset. This must come from within and be a part of her. She must learn to live for and with her vocation. We do our best work and get our best results only when we enjoy what we do. She must love people and at all times give of her knowledge freely. Knowledge is never worth while for its own sake; we must broadcast it to our fellow man for his benefit. The Home Service woman possessed of all these qualities is bound to be successful in gas work. She must understand the mechanism of appliances and be able to talk them from all sides. She plays a large part in creating sales and in keeping the consumer satisfied after installation through her constructive work on the appliance and by her advice to the housewife in the home. She makes every day a happy one for the housewife, and is truly blazing the path for home building and happy lives. The future will find her cheating the divorce courts. Through her cooperative service she is helping humanity to build health in her combined menus and recipes for foods with high nutritive values.

Sales Not Her Job

Sales should not be a part of the job of the Home Service Director; this must be separate. She is the missionary of the "Gas Works," and must be kept so, and can be more efficient by not being tied up with sales, and thus be better able to hold the confidence of customers in her daily contact. Making sales raises suspicion of the ulterior motive.

Today your company thoroughly equips the home from tip to toe. We handle everything in modern appliances;—gas ranges, lights, irons, washing machines, mangles and house heating plants. Most of our ranges are equipped with the oven heat control—which we are pushing in sales—because of its value to the housewife in enabling her to enjoy a day's recreation, every day, meeting the family at the evening meal, thoroughly refreshed—with interesting conversation—instead of the old complaining of the hard day spent within the four walls of home and its kitchen drudgery. This comes about for she is able to put the entire meal in the oven at once, setting the oven control at a minimum consumption of gas. She then dresses and goes shopping, mingling with friends down town for the afternoon, perhaps taking in a matinee or photoplay, coming home with a sparkle in the eye, and without ever having had to glimpse at the cooking, finds the evening meal, done to a turn, and the family with a perfect combination of foods—home cooked—enjoying in harmony their dinner at home. This spells progress in the highest sense and means a happy and contented family.

The Visit to the Gas Office a Profitable One

She may come into our office and meet a representative from each individual department, who will talk to her intelligently on the latest improvement in gas appliances, and be ready to equip the home without any anxiety or trouble to the consumer.

After the installation of these appliances the follow-up system of each department comes into play and appliances are closely watched and cared for, to the end that at all times consumers are getting the best results.

We aim at all times to serve the public in the best way possible!

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BROOKLYN HOME SERVICE PLANS FINE PROGRAM

THE Home Service Division has mapped out a fine program for the rest of the summer and early fall. They contemplate giving demonstrations at Howard Beach, and will continue the class at the Williamsburgh Sub Branch.

Also of interest in this line is the fact that the Home Service Division is to give some lectures under the auspices of the Brooklyn Institute of Arts and Sciences, in the early fall.

Last week at the Williamsburgh Sub Branch, the Division appropriately prepared various kinds of frozen desserts and cakes to go with them. This class continues to grow.

Fifty-three installation and complaint calls were made by the Home Service Division at Springfield during the week. Many regulated ovens were tested. The owners of these were very much interested in the oven-cooked meal and sets of recipes were sent to them.

INDUSTRIAL GAS LESSONS

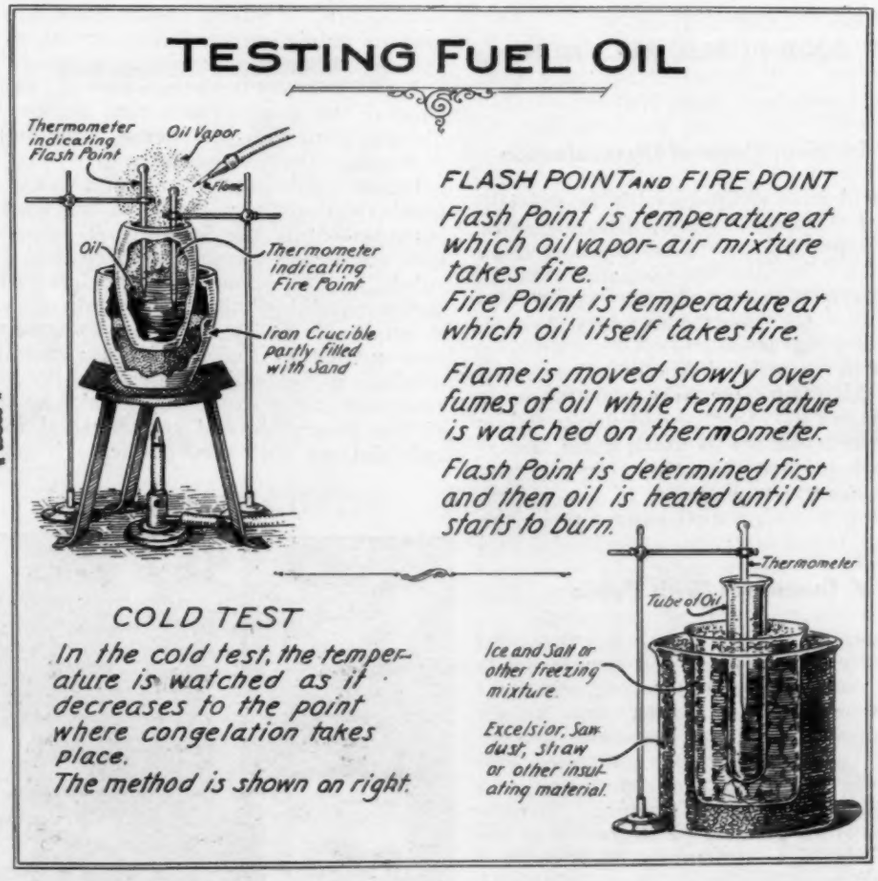
IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 131

Combustion

Flash Point and Fire Point

These are two important characteristics, not only of fuel oils but of all oils that are employed for heating, power, lubricating and the like purposes. The flash point of an oil refers to that temperature at which its vapors mixed with air will ignite, and will give a momentary flash. In other words, at that particular temperature the mixture of oil vapor and oil will burn when the small flame is brought in contact with it. This burning is momentary only, and this fact differentiates the flashpoint from the burning point. For the burning point is that temperature at which the oil itself will burn continuously. The burning point is also known as the fire point, meaning that at this temperature the oil will catch fire and burn. Generally there is a difference of about 20°F. between the flash point and the fire point. It is easy to say that the flash point is a very valuable property of the oil in determining the hazard due to combustion, for the lower the flash point, the more easily the oil will catch fire and the greater will the danger be in using it for fuel purposes.


TESTING FUEL OIL
Thermometer indicating Flash Point
Oil Vapor
Flame
Oil
Thermometer indicating Fire Point
Iron Crucible partly filled with Sand
FLASH POINT AND FIRE POINT
Flash Point is temperature at which oil vapor-air mixture takes fire.
Fire Point is temperature at which oil itself takes fire.
Flame is moved slowly over fumes of oil while temperature is watched on thermometer.
Flash Point is determined first and then oil is heated until it starts to burn.
COLD TEST
In the cold test, the temperature is watched as it decreases to the point where congelation takes place.
The method is shown on right.
Thermometer
Tube of Oil
Ice and Salt or other freezing mixture.
Excelsior, Sawdust, Straw or other insulating material.

Congelation Point

Another important test that is made of fuel oils is the determination of the point at which it will congeal. This is known as the cold test. Fuel oils, just like any other liquid have freezing temperatures, and the actual congelation which takes place when the temperature is low enough, is usually due to the crystallization of paraffin or other matter contained in the oil. The importance of this test lies in the fact that it tells the user of the oil, to what temperature the oil may be congealed, before it becomes too pasty to flow through the pipe lines. It is also evident that the cold test requirements of a fuel oil will depend entirely upon the climate in which it is used. Thus, an oil used in the northern latitudes, where temperatures are very low during winter, would have to have a lower cold test than those employed in warmer climates.

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SOURCES OF GOOD PUBLIC RELATIONS

(Continued from page 126)

Elimination of Incipient Cases of Dissatisfaction

Another source of good relations with the public—the elimination of incipient cases of dissatisfaction. When your company appears to be popular, don't take it for granted. You may have isolated cases of dissatisfaction that may grow to be sore spots. Obtain personal contact with your consumers through systematic, periodical surveys.

There are some in the utility business who contend that a survey of this nature encourages criticism. It does—and therein lies its value, provided you follow up these insignificant sources of antagonism, ascertain the facts and remove the cause, or, give the customer a satisfactory explanation of the reason why it cannot be removed, if that proves to be the case.

Contact of Executives With Public

Follow this thought of contact with people a step farther. Are your executives and department heads generally known outside of your own organization? Do they come in personal touch with many people besides their immediate business associates, except in a mercenary, coldblooded way—controlled and necessarily be the leaders of the community and therefore always in the limelight. I refer to the contact which comes from general participation in the social and civic life of a community. Where does the term "Big, Soulless Corporation" have its origin? Does it not rise from the general feeling that the company is a far-off, impersonal thing and functions in a business way? I do not mean that they should operated by some intangible body which is in the community but apart from its every day activities? Contrast this with the position of the company, every mention of whose name brings forth an involuntary comment. "That company? Oh, yes, I know them, they are good fellows." The Company takes on a personal aspect and a man immediately visualizes men who are like himself, men whom he knows in his work and in his pleasures. A criticism of such a company appears to him more like criticism of a friend.

Rates

Rates are generally considered the principal bone of contention between utilities and cities. Unless rates are unjustifiably high, a rate fight is the result rather than the cause of the controversy. Widespread complaints of high rates are danger signals for underlying dissatisfaction. More often than not they arise from lack of confidence in you and your organization, or antagonism towards the methods used in the conduct of your business. An attack is centered on rates because "Rates" is the most effective vehicle by which the consumer can show his displeasure. It affects the revenue of the Company and the public knows that a successful fight against rates is the most powerful weapon which it can use.

I need not touch on the value of customer ownership or the good results that accrue to the frank discussion of your problems with your public. In themselves they are subjects for papers such as this.

I have confined my discussion to those sources of good relations that have to do with the human equation—first, the spontaneous goodwill of your own employees; second, the natural effect on the public when it comes in contact with these employees; and third, the combination of the two wherein employees and public meet as equals and associates outside of their business connections. Public relations is the feeling engendered by little contacts. Everyday, petty experiences make up the sum total of that intangible and yet powerful force, good or bad relations with your public.

An Attractive Range Display in the Showroom of the Old Colony Gas Company, East Braintree, Mass.

GAS MERCHANDISING

Domestic – Industrial

Ideas for the Man Who Sells

William H. Matlack

POPULAR, GENEROUS AND EDUCATIONAL

P. G. AND E. advertising is all of it. From what folks tell me who live on "the coast," the P. G. and E. advertisements are popular. They are read for the ideas they contain regarding the company's service. They are generous for, as has been noted in many instances, they picture some manufacturer's product. In all of them the customer is told to "see them (appliances) at the dealer's store." They are educational for they deal with every phase of the company's service and the customers' appliances.

"Easy to have a clean kitchen with the *new* Gas Range—

"A kitchen that will stay gleaming white longer than you've ever known.

"And one reason for this—the *new* Gas Range has a smooth-top, scientifically built into the range. Here's the shield which protects your kitchen by sending all products of combustion through an especially designed flue.

The closed-top keeps the flames from touching your bright cooking utensils

"Another reason for the cleanliness of the *new* Gas Range is that the smooth-top itself, is so easy to clean."

See them at the dealer's store or inquire at our office.

PACIFIC GAS AND ELECTRIC COMPANY

P·G·and E·

Owned · Operated · Managed *by Californians*

206-436 POE

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SOW THE SEEDS EARLY

DO NOT forget the "young idea!" Hold a cooking demonstration the week before school opens this year and send an invitation to all the girls entering junior high school as well as to all other high school girls. Let your menu contain some recipes for candy, for party time will be on after school has been open but a short time and new cooks will wish to feed their friends.

August is a good month for inspection of all school equipment in your city. Many appliances may need adjusting; many will need replacing and many places for new ones will be discovered, if the inspection is systematic. The inspection should include both the domestic science and manual training departments of all private, public and parochial schools.

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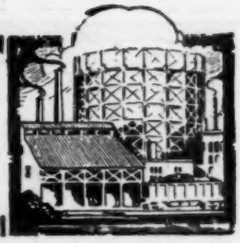
HE KNEW HIS GAS APPLIANCES

BECAUSE he knew his gas appliances we recently heard of a man, who although he had been made an executive of a gas company, was called upon time and time again to "show" certain customers new appliances. "The thing that causes me to wish to deal with no one else," said a big building contractor, "is that he always knows all about his stuff, and for that reason I have come to depend upon his recommendations entirely." Read your book and the trade magazines.—It pays to know your gas appliances.

NEWS OF THE GAS INDUSTRY



Pacific Men Meet Soon

To Hold Thirty-third Annual Convention in Pasadena

The thirty-third annual convention of the Pacific Coast Gas Association will take place in Pasadena, Cal., August 23 to 27, inclusive, with headquarters at the Vista del Arroyo Hotel. This hotel is situated in the residential part of the city of Pasadena and occupies twelve acres, which have been beautifully parked. Accommodations are in both the hotel building and in bungalows scattered throughout the hotel grounds.

The convention will bring together the leaders of the gas industry from the states of Washington, Oregon, California, Idaho, Nevada and Arizona, and from the Canadian province of British Columbia. A feature of the meeting will be a session attended by only the executives of gas companies and appliance companies present. At this meeting policy matters will be discussed involving the future of the gas industry and the place to be taken in this future by the association.

Among the prominent men on the program are A. B. Macbeth, presidential nominee of the American Gas Association, and Lester S. Ready, chief engineer of the California Railroad Commission.

Commercial Program

The Commercial Section will devote a great deal of time to the discussion of the Blue Star Plan of the American Gas Association, and all sections will attempt to develop means to tie their work in more thoroughly with the work of the parent association.

The general program is perhaps the most ambitious the Pacific Coast Gas Association has ever achieved, and in order to complete the program and to allow time for discussion of the many topics, four business days have been thought essential. The convention will be the culmination of possibly the most successful and useful year in the history of the association—a year marked by great activity in commercial development, by the publication of the Gas Appliance Installation and Service Manual, by a great deal of intensive technical research, and by a growth in membership of nearly 20 per cent.

A unique feature of the program will be an inspection tour of some notable househeating installations on the lines of the Los Angeles companies, and a working exhibit of several types of machine bookkeeping systems.

The conventions of the Pacific Coast Gas Association have always been worthy of note on account of the large number of ladies who attend, and a considerable part of the work of the convention committee, under the leadership of W. M. Thompson of Pasadena, has been in arranging adequate entertainment. This includes luncheon at the Allandale Golf Club, Flintridge Golf Club, and at the Casa del Mar at Santa Monica. There will also be a ladies' golf tournament, a theatre party and a trip to the top of Mt. Lowe, which towers 5,000 feet about the beautiful city of Pasadena. The most elaborate entertainment feature, in which the men also will participate, will be a trip to Catalina Island, which will occupy the whole day of Wednesday, August 25. There will also be the customary golf tournament for men, always a hard fought affair.

The convention will close with the annual banquet of the association on Friday night, August 27.

The program is as follows:

General Sessions

Monday, August 23.—General session; In memorium; address of welcome; president's address, F. J. Schafer, general manager, Southern California Gas Company; secretary's report, Clifford Johnstone, executive secretary; communications; election of officers; new business; appointment of resolutions committee; "The Future," A. B. Macbeth, executive vice-president, Southern California Gas Company, and nominee for president of the American Gas Association; "Blue Star Sales Plan and Appliance Testing Laboratory of American Gas Association," J. W. West, Jr., field representative, American Gas Association.

Friday, August 27—General session; "Tripartite Form of Gas Rate Schedule," Rudolph Jenny, Pacific Gas and Electric Company; "Gas Company Merchandising," C. B. Babcock, president, C. B. Babcock Co.; unfinished business; report of Resolutions Committee; executive session.

Accounting Section Program

A. E. Peat, General Chairman, Southern California Gas Company

Friday, August 27—Committee reports; "Bonus, Premium and Group Insurance," Donald E. Buyers, chairman, Portland Gas and Coke Company; "Undistributed Costs," E. N. Simmons, chairman, Los Angeles Gas and Electric Corporation; "Cost Accounting," P. S. Booth, chairman, Pacific Gas and Electric Company; "Customer's Bookkeeping," William Evans, chairman, Pacific Gas and Electric Company; "Statistics," W. A. Worthington, chairman, Pacific Gas and Electric Company; "Credits and Collections," M. W. Thernes, chairman, Spokane Gas and Fuel Company.

Commercial Section

C. M. Grow, General Chairman, Southern California Gas Company

Tuesday, August 24—Committee reports; "Gas Appliance Sales," F. U. Naylor, chairman, Pacific Gas and Electric Company; "Gas Refrigeration," J. H. Gumz, chairman, Pacific Gas and Electric Company; "How to Sell a High Class Article at a Profit," Fred Forrest, Forrest Stove Works; "Increasing Gas Consumption Through Existing Services," J. Earl Jones, Portland Gas and Coke Company; "Insulation of Homes to Be Heated With Gas," W. B. Hoyt, American Gas Products Company; "Starting Right in the Use of Gas,"

R. W. Campbell, Southern California Gas Company. Noon—adjourn for photograph on lawn.

Special Luncheon Program Today

"Gas Company Tie-in with National Advertising," W. S. Woodbridge, Bryant Heater and Manufacturing Company; "The Genus Blah," D. L. Scott, Los Angeles Gas and Electric Corporation; committee reports: "Industrial Sales," F. M. Banks, chairman, Southern California Gas Company; "Home Service and Customers' Service," C. R. Miller, chairman, Portland Gas and Coke Company Advertising," Clyde Potter, chairman, Southern Counties Gas Company. In connection with the report of the Advertising Bureau there is a display of gas company and gas appliance advertising on the walls of the large meeting room.

The Commercial Section will also present a paper on "Gas Company Merchandising," by C. B. Babcock, of San Francisco. This appears on the General Program on Friday afternoon.

C. M. Grow, chairman of the Commercial Section, has arranged for the inspection of some large gas-fired heating plants on Thursday afternoon. Those who wish to see these plants are asked to leave their names at the information desk before noon on Thursday.

Technical Section Program

Frank Wills, General Chairman, Pacific Gas and Electric Company

Tuesday, August 24—"Distribution Bureau," R. M. McCalley, chairman, Portland Gas and Coke Company; committee reports: "Load Factors," W. M. Henderson, chairman, Los Angeles Gas and Electric Corporation; "Unaccounted for Gas," B. G. Williams, chairman, Southern California Gas Company; "Materials," D. H. Perkins, chairman, San Diego Consolidated Gas and Electric Company; "Maps and Records," R. E. Cole, chairman, Portland Gas and Coke Company; "Pipe Protection," S. H. Graf, chairman, Oregon State Agricultural College; "Factors in Prolonging the Life of Buried Pipe," H. S. Christopher, Southern California Gas Company. Noon, adjourn for photograph on lawn.

Special Luncheon Program Today

"Effect of Oxygen and Water Vapor in Accelerating the Interior Corrosion of Gas Mains," J. A. Harritt, San Diego Consolidated Gas and Electric Company; "Natural Gas Bureau," H. P. George, chairman, Midway Gas Company; committee reports, "Compression," Elting Henderson, chairman, Midway Gas Company. "Measurement," Ralph L. Cook, chairman, Midway Gas Company. "Safety Bureau," V. R. Hughes, chairman, Pacific Gas and Electric Company; "Meter Bureau," E. A. McCallum, chairman, Pacific Gas and Electric Company; committee reports: "Statistics," D. E. Farmer, chairman, Portland Gas and Coke Company; "Shop Procedure," F. H. Coble, chairman, Southern California Gas Company.

Public Relations Section Program

W. H. Barton, General Chairman, Portland Gas and Coke Company

Thursday, August 26—"Transactions With Customers," J. G. Bourus, chairman, Tacoma Gas and Fuel Company; "Report on Legislation and Taxation," George L. Myers, chairman, Pacific Power and Light Company; "Customer Ownership," F. E. Seaver, chairman, Los Angeles Gas and Electric Corporation; "Relations With Educational Institutions," L. M. Klauber, chairman, San Diego Consolidated Gas and Electric Company; "Employees' Education and Training," H. J. Smith, chairman, Pacific Gas and Electric Company; "Company and Employee Relationship," E. G. McCann, chairman, Pacific Gas and Electric Company; "Public Information," R. E. Fisher, chairman, Pacific Gas and Electric Company.

F. J. Schafer, President, Pacific Coast Gas Association

Thursday, August 26—"Manufacturing Processes Bureau," F. J. Gartland, chairman, Public Service Company of Colorado; "Approaching the Ideal Gas Manufacturing Process," George Wehrle, Public Service Company of Colorado; "Coals Suitable for Gas Manufacture in California," W. W. Odell, U. S. Bureau of Mines; committee report. "Water Gas," F. C. Hawks, chairman, Tacoma Gas and Fuel Company; "Steam Production Bureau," C. M. Cole, chairman, Southern California Gas Company; committee report: "Prime Movers," C. H. Wilcox, chairman, Los Angeles Gas and Electric Corporation; "Results of More Complete Atomization of Oil in Oil Gas Manufacture," J. E. Kelley, Western States Gas and Electric Company; "Indexing and Filing of Gas Engineering Data," W. M. Berry and Grace B. Dixon, California Gas Research Council.

Friday, August 27—"Combustion Charts for California Gases," F. A. Hough, Southern Counties Gas Company; "Tests of Super-refractories in Oil Gas Generators," H. J. Knollman, Los Angeles Gas and Electric Corporation; "Purification Bureau," J. M. Dickey, chairman, Pacific Gas and Electric Company; committee reports: "Tar Analysis," S. C. Schwarz, chairman, Portland Gas & Coke Co.. "Liquid Purification," K. N. Cundall, chairman, Pacific Gas and Electric Company; "Oxide Purification," F. C. Jones, chairman, Pacific Gas and Electric Company; "Transportation Bureau," H. W. Drake, chairman, Portland Gas and Coke Company; "Economic Life of Motor Vehicles," S. B. Shaw, Pacific Gas and Electric Company.

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Fulton Co. G. & E. Co. to Buy Properties

Albany, N. Y.—The Fulton County Gas and Electric Company of Gloversville has made application to the Public Service Commission for authority to acquire by purchase all of the outstanding stock of the Broadalbin, N. Y., Electric Light and Power Company, now serving Broadalbin, Mayfield and nearby communities in Fulton county. The Broadalbin company buys its electricity from the Fulton county company, the petition alleges, is in need of increased amounts of energy, and the joint operation of the two systems will be of benefit to both the company and the public.

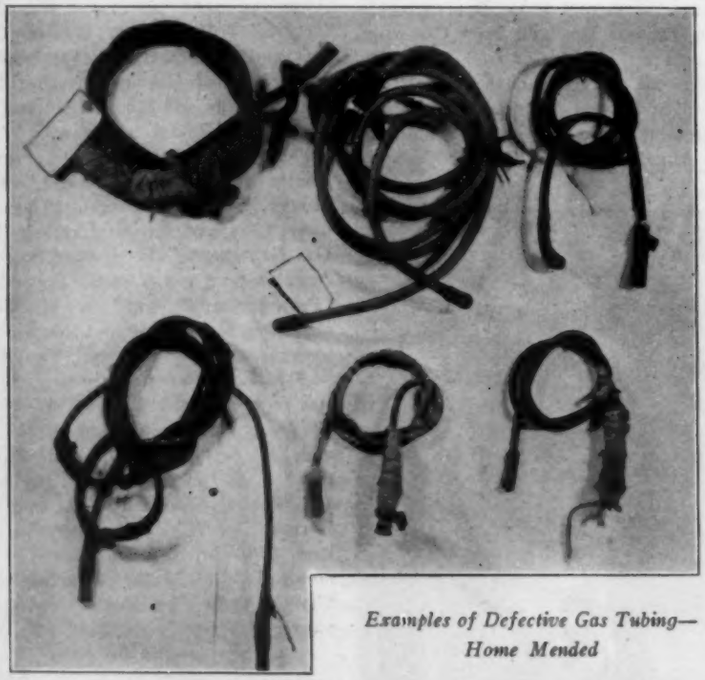
New Gas Tubing in Effect in N. Y. City

Consolidated Gas Co. Makes Personal Inspection

New York, N. Y.—The new and stringent amendment to the Sanitary Code which Commissioner of Health Dr. Louis I. Harris has adopted which will prevent the sale of gas tubing of an inferior quality became effective August 1. Henceforth all gas tubing sold in this city must have been tested and have the approval of the Board of Health.

There are nine manufacturers of the flexible type of tubing in this country and several of them have submitted their product to the Board of Health which has made a laboratory test of the samples and approved of some makes, while the other samples of tubing are still being tested. One piece of tubing of a German make was tested and rejected.

Previous to the adoption of the amendment to the Sanitary Code the Consolidated Gas Company of New York organized a large corps of inspectors for the purpose of making a personal inspection of homes and places of business where gas tubing was in use. That inspection covered the homes of 65,758 customers of the gas company in Manhattan and Bronx and was startling, if not sensational, in the revealing of the carelessness of gas users in their use of broken or worn out tubing which the customers had attempted to mend irrespective of constant cautionary preachments against the use of unsafe or worn out tubing. A total of 81,205 gas appliances were inspected in the 65,758 customers' homes.



Examples of Defective Gas Tubing—Home Mended

Defects Removed

Although not reported to the gas company there were 572 defective stove cocks found by the inspectors and immediately replaced; 41 hose cocks were out of condition and repaired; 1,350 cocks on fixtures were replaced or repaired on account of their worn condition; a few leaks were stopped that had not been reported to the company and 1,337 gas appliances were repaired.

When the inspectors concluded their work they had 563 pieces of gas tubing in their possession which were not only unfit for use but dangerous to life and health. New pieces of the highest standard of tubing replaced the worn out and home-mended article. In hundreds of cases it was found that the gas users used rags of any and every description to wind around and over the cracks and broken parts of the tubing and that little or no attention was given to the imperfect ends of the tubing where it connected with a stove or heater and the wall bracket. It was found during the inspection that inferior pieces of tubing were purchasable in stores and that some of the low-grade tubing was manufactured by firms who also turned out a superior and standard grade. The inferior article was sold at a cheaper price than could be charged for the tubing of higher quality which assured safety to the gas consumer. The result of the Consolidated Gas Company's inspection was made known to Dr. Harris, Commissioner of Health.

Under Section 334 of the Sanitary Code which goes into effect today "No person shall have, sell, offer for sale, give away, deal in, or supply any flexible gas tubing unless such flexible tubing shall have been registered with the Board of Health and a certificate of registration has been issued by the Board of Health certifying that such flexible gas tubing has been examined and tested and found to comply with the regulations of the said Board."

The law is very drastic and intended also to prevent gas users from patching up old pieces of worthless and dangerous tubing.

* * *

Gas Companies Merge in New York

Albany, N. Y.—A certificate has been filed in the office of the secretary of state through Jay T. Taaffe, attorney, Albany, merging the New Berlin Light and Power Company, Madison Power Company, Inc., Southern New York Power Company, West Branch Light and Power Company, Stamford; Waterville Gas and Electric Company, Waterville; Sullivan County Light and Power Corporation, Fleischmanns Light, Heat and Power Corporation, Fleischmanns; Delaware County Electric Light and Power Company, with Moravia Electric Light, Heat and Power Company, Moravia.

A. G. A. Rate Structure Committee Working on Scientific Rate

The 1926 Rate Structure Committee of the American Gas Association is devoting itself to an exposition of the application of scientifically correct rate analyses to the practical rate making problems that crop up continually in the gas industry.

In the past the Rate Structure Committees have rendered services that have been of value to the entire industry. Many excellent cost analyses have been made, and two, three, and four part rates worked out scientifically and set-up accurately. This work culminated in the report of T. V. Purcell's 1925 committee, which, among other studies, brought out Ewald Haase's splendid exposition of a four part rate.

It has seemed to the 1926 Committee, of which Thomas C. O'Hare, of C. H. Tenney & Company, Boston, Mass., is chairman, as it appeared to the 1925 Committee, that perhaps the rate analyses had developed rate structures which, at least in the present status of the industry, were sufficiently scientific and accurate to cover the remotest contingency.

Committee's Activities

With this in mind the Committee's activities were divided into the following subjects and subcommittees appointed to cover each of such subjects.

1. Development of the Lesson on Rates to be used in the Columbia University Course.
2. A report treating of the development of the so-called Off Peak load through an analysis of Off Peak costs and a subsequent development of an Off Peak Rate.
3. An exposition of the application of scientifically correct cost analyses and rate structures to the problems of practical rate making.
4. Report bringing up to date the excellent Rate Bibliography of the 1925 Rate Structure Committee.

The Committee has felt that, through devoting its efforts along such lines, followed by further development of the problems involved by the rate committees of subsequent years, an increasingly profitable interest in rates and rate problems might be aroused throughout the industry. (This would not be to develop a vast number of rate experts; there are other problems in the industry which must be cared for.) It is rather with the intention that there shall be in the years to come an increasing appreciation of the rate problem, its importance to the industry and its interlocking relationship with the functions of production and sales.

* * *

Digging for Education's Wherewithal

Fulton, N. Y.—It's a study in ambitious industry.

Just take a look into the trenches that are being dug for the Fulton Fuel and Light Company in that company's main extension program. You will find something to interest you and to give you cause for pleasurable thought.

There are seasoned diggers in those trenches, men who have helped to dig such trenches times without number, men whose daily toil, year after year, has been to dig for a living. But, you'll find in those trenches, too, young men who are ambitious to get along in the world and who are not above bending their backs under toil in order that they may earn the wherewithal to accomplish their high purpose.

In the company's trenches in Fulton today is a graduate dentist, a Fulton young man who finished his scholastic course in the past few weeks and who is now digging trenches that he may earn the money to pay for equipment for a dental office. Another young man digging there is a junior in a university in Washington. Still another is a student at Colgate University. There is, too, a graduate of Fulton High and another is a student of the local high school who goes to school awhile and works awhile, a young fellow earning his way through school.

It's pretty good to look upon these young fellows and to realize that they are toiling with the purpose of lifting themselves by their own bootstraps, working for an education. And it's a pretty good thought, too, that these same young men were not given a cold shoulder when they wanted work, but were recognized as of the right caliber and given a chance to earn. We understand that such young men have been employed for some years by the Fulton Fuel and Light Company on its summer work.

Gas Company Offers Scholarship at Johns Hopkins

Chambersburg, Pa. — Manager Luther Deihl of the Chambersburg Gas Company, announces that a free scholarship worth $350 a year, in gas engineering at Johns Hopkins University, is offered to young men of the territory served by the Southern Gas and Power Corporation, whose system includes the local gas company.

This is the second time the same opportunity has been opened by the gas corporation. There were more than a score of applicants for the first Southern Gas and Power scholarship as soon as it was announced last summer. In the ensuing competition the prize was won by Stephen G. Moran of Gadsden, Alabama, who has just completed his first year at the university in Baltimore.

Johns Hopkins University has made the gas engineering course equal in rank with its electrical, mechanical and civil engineering courses. The course was opened in September, 1924, in recognition of the growing importance of the gas industry and its prospects for future expansion. This university is one of the world leaders in scientific and industrial development.

Mr. Diehl will furnish any local boy, desirous of trying for the scholarship, with information how to make the application.

Ruud's New Showroom in New York

Architects and Builders Are Attracted

New York City.—The location of the new showroom is 10 East 41st street, New York City in the Real Estate Board Building. This is just off Fifth avenue, the busiest traffic thoroughfare in the world and the center of the shopping district.

The showroom itself is approximately twenty-five feet wide by one hundred feet deep. At a point about fifty-five feet from the front a mezzanine was erected to accommodate the office personnel. Execution is Spanish period with rough brown walls, high arched ceiling and bays. The lights and shadows created by this architecture are

beautiful. Every size of Instantaneous and Junior Automatic Storage Systems are on display. They are located on a raised tile platform which makes a close inspection of the heaters possible. An Instantaneous and Junior Automatic Storage Heater are connected to water and gas and their mechanical operation is demonstrated from a specially designed and built lavatory.

Many Visitors

Within the short space of time the showroom has been open many architects and engineers as well as individuals interested for their own homes have been visitors. We call to special attention the fact that architects and engineers are making use of this showroom. This is of vital interest to all trade elements.

It has been part of all trade elements to educate the architects, builders and engineers to the use of Automatic Gas Water Heaters. We must say that the co-operation of the various trade elements has been of material benefit in gradually reducing any resistance that may have been encountered. This showroom will be the means of materially lightening the load we have all carried in this educational program. Every prominent architect and engineer either is located in New York or is a visitor at frequent intervals. That they will be frequent visitors to this showroom is almost assured from the start for they are being hammered to increase their knowledge of Automatic Gas Water Heaters and to do so they will naturally come to the pioneer manufacturer and leader of the industry to get the information they desire.

New York Branch Well Equipped

The New York branch of the Ruud Manufacturing Company is now the best equipped branch in the giant network of this company's efforts. The showroom is just one phase of this operations activities. A complete field selling force is maintained under the expert leadership of Mr. J. Shane Nicholls, Jr., District Manager. This selling force is at the disposal of trade elements for the merchandising of our product. The sales force is adequately backed with a complete warehouse and service organization. At 480 Borden avenue, Long Island City, N. Y., our warehouse is located. A private railroad siding enables us to unload direct factory shipments on our own loading platform. All sizes and types of heaters are always on hand and prompt delivery is assured. The service organization is equipped to see that every heater we sell lives up to the expectation of the purchaser and the guarantee of the Ruud Manufacturing Company. Engineering advice in the matter of complicated installations is always available for the trade.

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Upper Hudson Schedule Approved

Albany, N. Y.—The Public Service Commission has approved a new schedule of the Upper Hudson Electric and Railroad Company for gas service supplied in village of Catskill. Schedule filed to become effective August 9, 1926, increases from 50 cents to $1 the minimum monthly charge for general use of service for fuel, light and power, and provides a new classification available to any consumer who will guarantee to pay for not less than 2,000 cubic feet per month in which the rate (per M cubic feet) is $2.30 for the first 10,000 cubic feet, $2.05 for the next 10,000 cubic feet, and $1.85 for all over 20,000 cubic feet per month. Discount of 10 cents per M cubic feet allowed on bills paid within ten days from date thereof.

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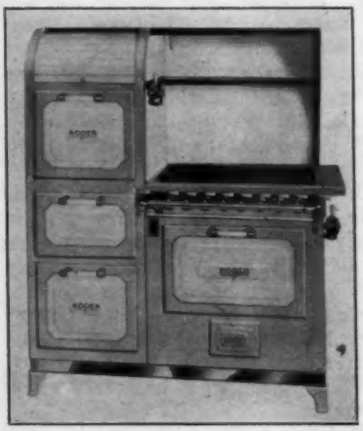

A New Roper Product, along Flush Colonial lines, with many improvements and conveniences, such as burnt-in cooking chart, electric light, etc.